

1 **CLAIMS:**

2 What is claimed is:

- 3 1. A method of manufacturing an electronic-charge-transferring device comprising:  
4 providing a charged species source and a charge species drain; and  
5 manufacturing a moveable component for transferring charge to the  
6 charged species drain, a first protrusion proximate to the moveable component,  
7 and a second protrusion proximate to the moveable component, wherein the  
8 moveable component is positioned in close proximity to the charged species  
9 source, and wherein at least one of the moveable component, the first protrusion  
10 and the second protrusion is micro-manufactured.
- 11 2. The method of claim 1, wherein the providing step comprises providing a micro-  
12 manufactured charged species source.
- 13 3. The method of claim 1, wherein the providing step comprises providing a micro-  
14 manufactured charged species drain.
- 15 4. The method of claim 1, wherein the providing step comprises providing the  
16 charged species source and the charged species drain in contact with the moveable  
17 component.
- 18 5. The method of claim 1, wherein the manufacturing step comprises including a  
19 first material in the first protrusion and a second material, different from the first  
20 material, in the second protrusion.
- 21 6. The method of claim 5, wherein the manufacturing step comprises including a  
22 third material, different from the first material and the second material, in the  
23 moveable component.
- 24 7. The method of claim 1, further comprising positioning the first protrusion and the  
25 second protrusion in contact with the moveable component.
- 26 8. The method of claim 1, further comprising electrically connecting a device to the  
27 charged species drain.
- 28 9. A method of transferring electric charge comprising:  
29 providing a first charged species source and a first charged species drain;  
30 micro-manufacturing at least one of a first moveable component, a first  
31 protrusion, and a second protrusion, wherein the moveable component is  
32 positioned proximate to the first charged species source and the first charged  
33 species drain, and wherein the first protrusion and the second protrusion each  
34 contact the first moveable component; and

1 moving the first moveable component relative to the first charged species  
2 source and the first charged species drain.

3 10. The method of claim 9, wherein the providing step comprises micro-  
4 manufacturing the first charged species source and the first charged species drain.

5 11. The method of claim 9, wherein the moving step comprises translating the first  
6 moveable component relative to the first charged species source.

7 12. The method of claim 9, wherein the moving step comprises rotating the first  
8 moveable component about a rotation axis.

9 13. The method of claim 9, further comprising tribocharging the first protrusion and  
10 the second protrusion.

11 14. The method of claim 9, further comprising using the first charged species drain to  
12 supply an electric current to a device.

13 15. The method of claim 9, further comprising providing a second moveable  
14 component, a second charged species source and a second charged species drain,  
15 each positioned proximate to the second moveable component, and a third  
16 protrusion and a fourth protrusion, each positioned proximate the second  
17 moveable component, wherein the first charged species drain and the second  
18 charged species drain are each electrically connected to a device.

19 16. The method of claim 15, further comprising moving the second moveable  
20 component out of phase with the first moveable component.

21 17. A van de graaf device comprising:

22 a moveable component;

23 a charged species source proximate to the moveable component;

24 a charged species drain proximate to the moveable component;

25 a first protrusion contacting the moveable component; and

26 a second protrusion contacting the moveable component, wherein at least  
27 one of the moveable component, the first protrusion and the second protrusion is  
28 micro-machined.

29 18. The van de graaf device of claim 17, wherein the charged species source is  
30 electrically grounded.

31 19. The van de graaf device of claim 17, wherein the charged species source and the  
32 charged species drain are micro-machined.

- 1 20. The van de graaf device of claim 17, wherein the first protrusion comprises a  
2 material that can be tribocharged by a material comprised in the moveable  
3 component.

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